

210193

FLOOD INSURANCE STUDY



CITY OF PIKEVILLE,
KENTUCKY
PIKE COUNTY

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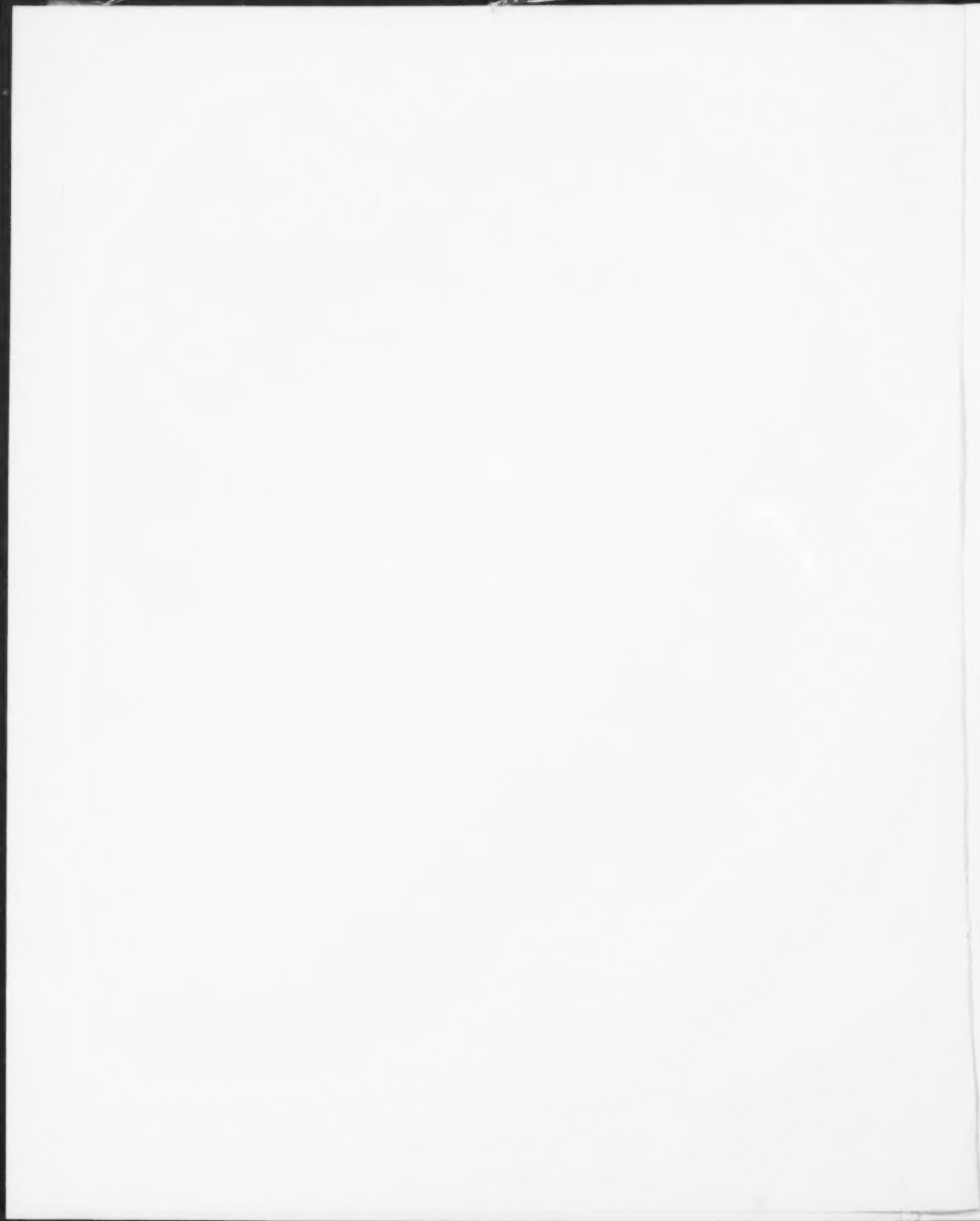


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FLOOD INSURANCE STUDY CITY OF PIKEVILLE, KENTUCKY

1.0 INTRODUCTION

1.1 Purpose of Study

This Flood Insurance Study investigates the existence and severity of flood hazards in the City of Pikeville, Pike County, Kentucky, and aids in the administration of the National Flood Insurance Act of 1968 and the Flood Disaster Protection Act of 1973. This study will be used to convert the City of Pikeville to the regular program of flood insurance by the Federal Insurance Administration (FIA). Local and regional planners will use this study in their efforts to promote sound flood plain management.

In some states or communities, flood plain management criteria or regulations may exist that are more restrictive or comprehensive than those on which these Federally-supported studies are based. These criteria take precedence over the minimum Federal criteria for purposes of regulating development in the flood plain, as set forth in the Code of Federal Regulations at 24 CFR, 1910.1 (d). In such cases, however, it shall be understood that the state (or other jurisdictional agency) shall be able to explain these requirements and criteria.

2.0 AREA STUDIED

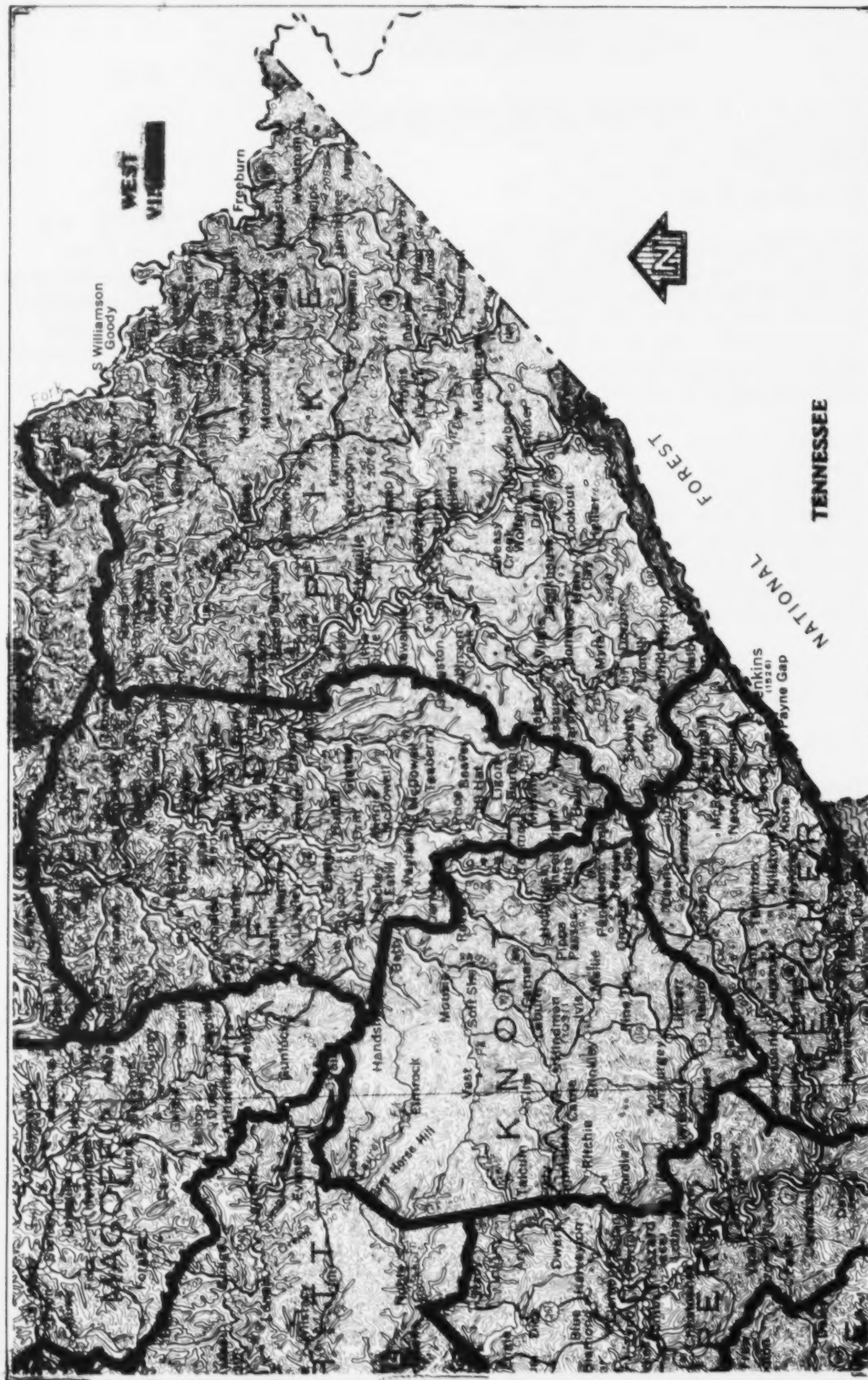
2.1 Scope of Study

This Flood Insurance Study covers the incorporated area of the City of Pikeville.

Flooding caused by the overflow of Levisa Fork was studied in detail.

3.0 ENGINEERING METHODS

For the flooding sources studied in detail in the community, standard hydrologic and hydraulic study methods were used to determine the flood hazard data required for this study. Flood events of a magnitude which are expected to be equalled or exceeded once on the average during any 10-, 50-, 100-, and 500-year period (recurrence intervals), have been selected as having special significance for flood plain management and for flood insurance premium rates. These events, commonly termed the 10-, 50-, 100-, and 500-year floods, have a 10, 2, 1, and 0.2 percent chance, respectively, of being equalled or exceeded during any year. Although the recurrence interval represents the long term, average period between floods of a specific magnitude, rare floods could occur at short intervals or even within

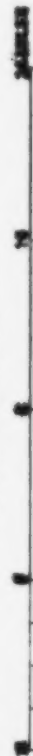


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CITY OF PAVEVILLE, KY

1964 (1961)

APPROXIMATE SCALE



VICINITY MAP

FIGURE 1

the same year. The risk of experiencing a rare flood increases when periods greater than one year are considered. For example, the risk of having a flood which equals or exceeds the 100-year flood (one percent chance of annual occurrence) in any 50 year period is about 40 percent (four in 10), and for any 90 year period, the risk increases to about 60 percent (six in 10). The analyses reported here reflect flooding potentials based on conditions existing in the community at the time of completion of this study. Maps and flood elevations will be amended periodically to reflect future changes.

3.1 Hydrologic and Hydraulic Analyses

Hydrologic and hydraulic analyses were carried out to establish peak discharge-frequency relationships and provide estimates of the elevations of floods of the selected recurrence intervals for Levisa Fork.

Peak discharges were determined for the 10-, 50-, 100-, and 500-year floods by use of gage data. Water-surface profiles were computed for floods of the selected recurrence interval by straight line interpolation between rated cross sections.

All elevations in this study are referenced to National Geodetic Vertical Datum of 1929, formerly referred to as Mean Sea Level Datum.

Flood elevations may be raised by debris blockage of the streams in the study area. The hydraulic analyses for this study, however, are based only on the effect of unobstructed flow. The flood elevations as shown on the profiles are thus considered valid only if hydraulic structures in general remain unobstructed and do not fail.

4.0 FLOOD PLAIN MANAGEMENT APPLICATIONS

The National Flood Insurance Program encourages state and local governments to adopt sound flood plain management programs. Therefore, each Flood Insurance Study includes a flood boundary map designed to assist communities in developing sound flood plain management measures.

4.1 Flood Boundaries

In order to provide a national standard without regional discrimination, the 100-year flood has been adopted by the FIA as the base flood for purposes of flood plain management measures. The 500-year flood is employed to indicate additional areas of flood risk in the community. For each stream studied in detail, the boundaries of the 100- and the 500-year floods have been delineated using the flood elevations determined at each cross section; between cross sections, the boundaries were interpolated using topographic maps at a scale of 1 inch = 200 feet and a contour interval of 5 feet. In cases where the 100- and the 500-year flood boundaries are close together, only the 100-year boundary has been shown.

5.0 INSURANCE APPLICATION

In order to establish actuarial insurance rates, the FIA has developed a process to transform the data from the engineering study into flood insurance criteria. This process includes the determination of reaches, Flood Hazard Factors (FHF's), and flood insurance zone designations for each significant flooding source affecting the City of Pikeville.

5.1 Reach Determinations

Reaches are defined as lengths of watercourses having relatively the same flood hazard, based on the average weighted difference in water-surface elevations between the 10- and 100-year floods. This difference does not have a variation greater than that indicated in the following table for more than 20 percent of the reach.

<u>Average Difference Between 10- and 100-Year Floods</u>	<u>Variation</u>
Less than 2 feet	0.5 foot
2 to 7 feet	1.0 foot
7.1 to 12 feet	2.0 feet
More than 12 feet	3.0 feet

One reach meeting the above criteria was required for Levisa Fork within the City of Pikeville. This reach is shown on the Flood Profile (Exhibit I).

5.2 Flood Hazard Factors (FHF's)

The Flood Hazard Factor is used to correlate flood information with insurance rate tables. Correlations between property damages from floods and their assigned FHF's are used to set actuarial insurance premium rate tables based on FHF's from 005 to 200.

The FHF for a reach is the average weighted difference between the 10- and 100-year flood water-surface elevations expressed to the nearest one-half foot, and shown as a three-digit code. For example, if the difference between the water-surface elevations of the 10- and 100-year floods is 0.7 foot, the FHF is 005; if the difference is 1.4 feet, the FHF is 015; if the difference is 5.0 feet, the FHF is 050. When the difference between the 10- and 100-year flood water-surface elevations is greater than 10.0 feet, the accuracy for the FHF is to the nearest foot.

5.3 Flood Insurance Zones

After the determination of reaches and their respective FHF's, the entire incorporated area of the City of Pikeville was divided into zones, each having a specific flood potential or hazard. Each zone was assigned one of the following flood insurance zone designations.

- | | |
|----------|---|
| Zone A18 | Special Flood Hazard Areas inundated by the 100-year flood, determined by detailed methods; base flood elevations shown, and zones subdivided according to FHF's. |
| Zone B: | Areas between the Special Flood Hazard Area and the limits of the 500-year flood, including areas of the 500-year flood plain that are protected from the 100-year flood by dike, levee, or other water control structure; areas subject to certain types of 100-year shallow flooding where depths are less than 1.0 foot; or areas subject to 100-year flooding from sources with drainage areas less than 1 square mile. Zone B is not subdivided. |
| Zone C: | Areas of minimal flooding. |

Table 2, "Flood Insurance Zone Data," summarizes the flood elevation differences, FHF's, flood insurance zones, and base flood elevation for each flooding source studied in detail in the community.

5.4 Flood Insurance Rate Map Description

The Flood Insurance Rate Map for the City of Pikeville is, for insurance purposes, the principal result of the Flood Insurance Study. This map (Exhibit 2) contains the official delineation of flood insurance zones and base flood elevation lines. Base flood elevation lines show the locations of the expected whole-foot water-surface elevations of the base (100-year) flood. This map is developed in accordance with the latest flood insurance map preparation guidelines published by the FIA.

6.0 OTHER STUDIES

A Flood Hazard Boundary Map dated February 13, 1976, has been published for the City of Pikeville. The information given in this study supersedes the information contained on the previously published map and is authoritative for purposes of the Flood Insurance Program.

A revised Flood Insurance Study for the City of Pikeville is scheduled for completion in March 1981, by the U.S. Army Corps of Engineers, Huntington District.

7.0 LOCATION OF DATA

Survey, hydrologic, hydraulic, and other pertinent data used in this study can be obtained by contacting the Insurance and Mitigation Division, Federal Emergency Management Agency, 1375 Peachtree St. N.E., Atlanta, Georgia 30309.

FLOODING SOURCE	PANEL ¹	ELEVATION DIFFERENCE ² BETWEEN 1.0% (100-YEAR) FLOOD AND			FHF	ZONE	BASE FLOOD ELEVATION ³
		10% (10 YR.)	2% (50 YR.)	0.2% (500 YR.)			
Levisa Fork Reach 1	0001,0002 0003	-9.08	-2.59	+6.76	090	A18	Varies

¹FLOOD INSURANCE RATE MAP PANEL
²WEIGHTED AVERAGE
³ROUNDED TO NEAREST FOOT-SEE MAP

TABLE 2

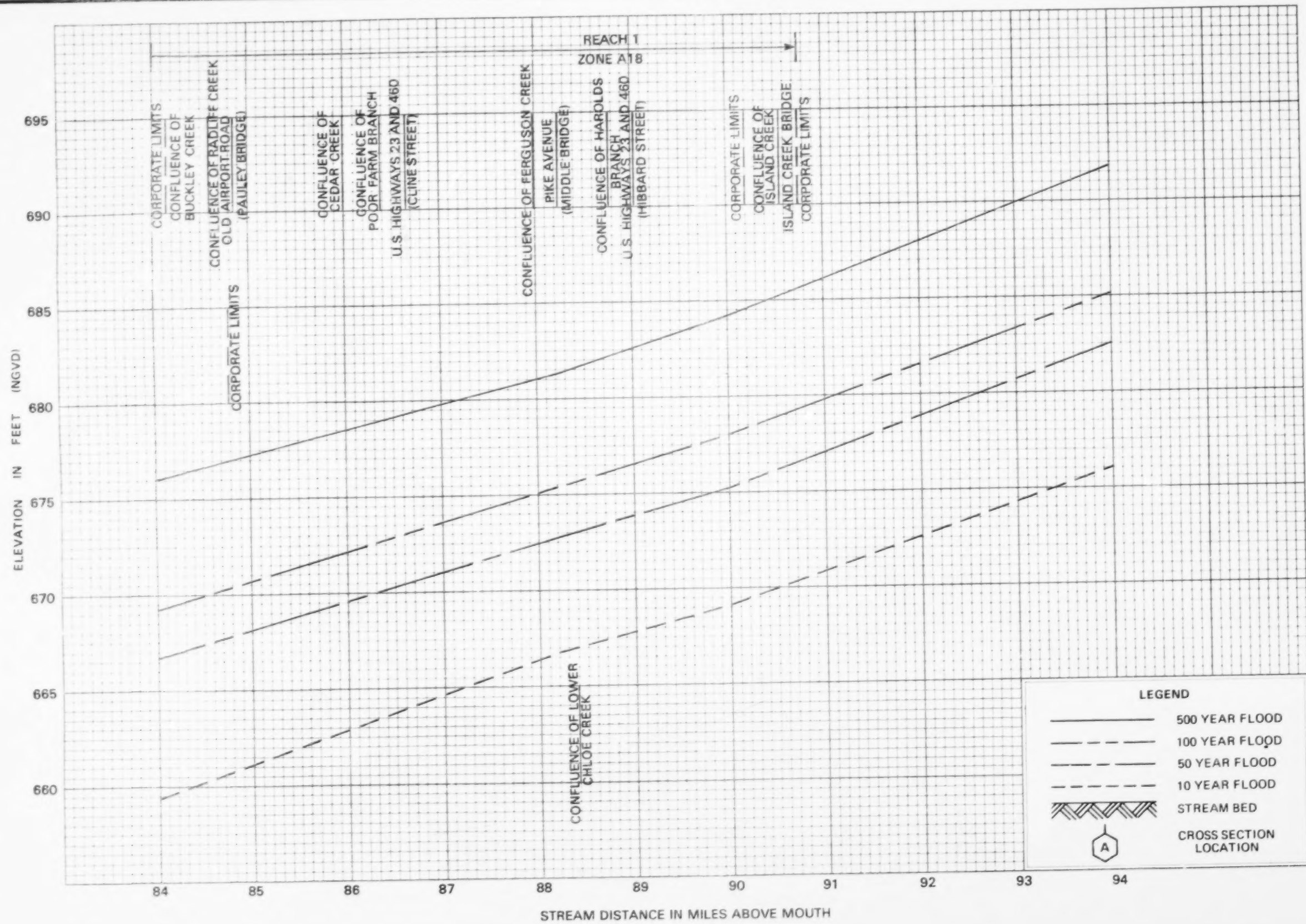
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FLOOD INSURANCE ZONE DATA

LEVISA FORK



FLOOD PROFILES

LEVISA FORK

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